National Missile Defense (NMD)

UNITED STATES ARMY

MISSION
Defend the United States against limited strategic ballistic missile threats.

DESCRIPTION AND SPECIFICATIONS
The initial National Missile Defense (NMD) system will be a fixed-site, land-based system. It will operate in conjunction with the Integrated Tactical Warning and Attack Assessment (ITW/AA) system, and ground and space-based early warning (EW) systems. It will acquire, track, discriminate, destroy, and provide kill assessment of strategic ballistic missiles. The Army elements of the NMD system include the following:

- Ground-based, exo-atmospheric, hit-to-kill interceptors
- Ground-based, phased-array, X-band defense radar (XBR) (for surveillance, tracking, object classification, and kill assessment)
- Site battle management command, control, and communication (BMC3) for human-in-control, engagement planning, top-level decision making, and system communications

An NMD engagement is initiated based on the detection and designation of a hostile ballistic missile launched toward the United States. BMC3 aids the operators in identifying the reentry vehicles and planning the engagement, using data from surveillance and tracking systems, including the ground-based radar. After launch and burnout of the Ground-Based Interceptor (GBI) booster, an Exo-atmospheric Kill Vehicle (EKV) separates and repositions itself, pointing the seeker field-of-view to the predicted target position. The onboard computer receives additional target updates from the BMC3 based on surveillance data and executes intercept course correction maneuvers. Once uncapped, the on-board passive seeker searches and acquires the target and any associated objects in its field of view. The target is designated, using on-board target selection capabilities. The kill vehicle then tracks the target, executing "end-game" maneuvers to achieve a direct-impact kill. The intercept is monitored by the X-band radar and EW sensors for kill assessment or further battle management action.

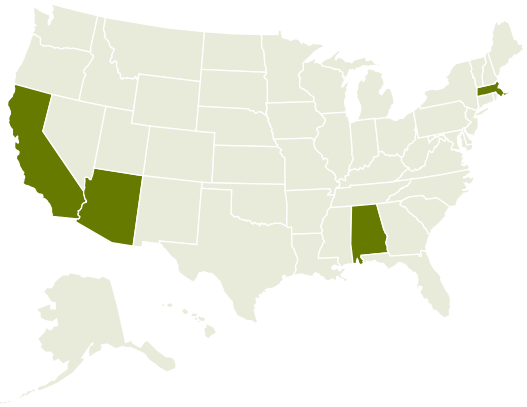
FOREIGN COUNTERPART
Russia: Moscow ABM System

FOREIGN MILITARY SALES
None

PROGRAM STATUS
3QFY98 Awarded lead system integration contract.
4QFY98 Selected commercial off-the-shelf booster approach for GBI.
1QFY99 Selected primary EKV contractor.
3QFY97–2QFY98 Conducted two successful flight tests of EKV sensors from the U.S. Army Kwajalein Atoll (USAKA).
1QFY00 Conducted a successful integrated flight test of the EKV, launched from USAKA, resulting in an intercept of a medium re-entry vehicle launched from Vandenberg Air Force Base, California. Successfully operated the prototype GBR and portions of the BMC3 in "shadow mode" during the test.
2QFY00 Conducted second EKV intercept attempt (IFT-4).

PROJECTED ACTIVITIES
3QFY00 First integrated system test (IFT-5).
Deployment readiness review.

PRIME CONTRACTORS
Lead System Integrator (LSI): Boeing (Huntsville, AL)
EKV: Raytheon (Tucson, AZ)
PLV: Lockheed Martin (Sunnyvale, CA)
GBR: Raytheon (Bedford, MA)
BMC3: TRW (Huntsville, AL)



* See appendix for list of subcontractors